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Final Report

5.1-6

Evaluation of Procedures for More Effective Use of Market Information

Conducted by Farmwest Management Ltd.
SASKATOON, Saskatchewan

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1.0 SUMMARY

The main objective for this project was to test the effectiveness of a simple carryover analysis model for providing information on market trends using a market group or club format.

Two groups of farmers were selected. There were 16 members in Saskatoon and 13 members in Rosetown. Both groups had a level of education much higher than the average expected for the farm community at large. However, both groups demonstrated that they were not knowledgeable about the structure and supply-demand fundamentals of grain markets, and both groups indicated a need to know more about market trends.

Meetings were held on 5 occasions for 7-11 P.M. in Saskatoon and on six occasions from 10 A.M. - 4 P.M. at Rosetown. Farmwest personnel, outside speakers, and group members made presentations on supply/disposition for several grains and oilseeds, and government policies which impact on supply, demand and price trends.

Ten farmers in the Rosetown group completed 1988 crop plans using the Farmwest Crop Plan program. The sensitivity of the cash flow outcomes to small changes in price expectations underlined the important of accurate knowledge about market trends. To be effective, computerized simulation models need to be used along with a regular schedule for updating expectations as new and more accurate information becomes available.

The final evaluation revealed that the Rosetown group increased in level of understanding and confidence an average of 53%, and the Saskatoon group

increased by 14%, based on participant reactions to 7 individual questions.

Both groups ranked the marketing club project as the best source of information available to them. A total of 8 out of 29 participants were willing to pay more than $1,000 annually for market information. The project therefore identified a potential market for marketing club facilitators.

This project identified potential for the marketing group approach. Further study is required to test the concept with groups at a lower education level. Further study is also needed in the form of a 3-5 year project to track the outcomes of market related management decisions, and the real effectiveness of marketing information in terms of impact on farm business performance.

2.0 BACKGROUND

One of the most important functions of business management is interpretation of market signals as information for planning. Traditionally, farmers find the practical difference between "noise" and "information" hard to identify, because they do not have a simple interpretative model available to them. However, a more "market oriented" approach to farm planning is necessary if farmers are to understand the factors underlying fundamental market trends.

Farmers require an interpretive model which enables them to avoid the trap of "linear projections". The linear trap of "the way markets are today is the way they'll stay" leads to disastrous investment decisions. Farmers and creditors who depend on this faulty model pay too much for assets after a price uptrend and sell assets too cheaply after a price downturn, with unhappy consequences for all concerned.

After the experience of the 1980's, farmers have learned that it is not practical to depend on public or private lending institutions for interpretive market analysis to support farm planning decisions. Lenders have demonstrated a propensity to project current market relationships on a straight line basis into the future, even though history shows a regular sequence of peaks, laws and market reversals.

Farm managers in the future will likely be increasingly expected to know more about markets themselves, and to understand enough about basic market trends so that the short and medium term price and cash flow projections for their own farms will be more realistic.

A high priority should be assigned to investigations which focus on ways farmers can "sort the wheat from the chaff" insofar as market information is concerned. This project was designed to test a simple "carryover trend" interpretive model using a marketing club format. The working hypothesis was that farmers can understand and use information on market fundamentals for farm planning and financial management. In order to follow through to observe the impact of market information on farm decisions, a two or three year project would be required. As this project was for one year, the assessment of usefulness of the information was based on the participants' perceptions of the learning experience and the difference they expected it would make for them as farm managers.

3.0 OBJECTIVES

The focus for this project is on methods of developing a more "market oriented" approach to farm management and cash flow planning, as a compliment to the more traditional concentration by farm managers on input/output relationships.

The general objective for this project was to test the effectiveness of a simple "carryover analysis model" for providing useful information on market trends to farmers in a "marketing club" setting.

Specific objectives included investigation of:

(1) Possibilities for organizing marketing clubs, including timing of meetings and methods of presentation;

(2) Usefulness of information according to the perceptions of club members;

(3) Potential for computerized market oriented simulation models for marketing club groups.

4.0 METHODOLOGY

4.1 Selection and Characteristics of Participants for Marketing Club Groups

Two groups of farmers were selected and organized into market club groups by Farmwest personnel. A Saskatoon group of 16 farmers and a Rosetown group of 13 farmers were selected.

The criteria for selection included interest in improving personal knowledge of market information and availability for meetings during late fall and winter of 1987 and winter and early spring of 1988. Farmers who were activity engaged in speculating on futures market were not selected. See Appendix A for membership lists.

The Saskatoon group was older and had a higher level of education when compared to the Rosetown group. The educational level of each group was much higher than the average expected for the farm community at large. However, at the outset of the project, the members generally could not fully identify the major exporters and importers in world markets for various crops, and did not have up to date knowledge about supply/disposition for grain on world markets. The results of a quick quiz on fundamental market trends indicated scores of about 33%, a score which would be expected by chance for the 3 part multiple choice questions asked. This confirmed the reactions volunteered by the club members to the effect that they did not have a satisfactory working knowledge of market conditions and trends.

Most of the members in the Saskatoon group were working at off farm jobs

in Saskatoon, and about 1/3 had off farm income greater than 10% of gross farm income. For the Rosetown group, only one member had off farm income greater than 10% of gross farm income.

See Table 1 for details on the personal profile of club members.

TABLE 1. PERSONAL PROFILE OF CLUB MEMBERS

	SASKATOON	ROSETOWN
Age of Members		
< 35 years	3	3
35-44	4	7
45-54	7	3
> 54	2	0
Size of Farm		
< 760 ac	0	0
761-1599	10	3
1600-2799	3	8
> 2800	3	2
Level of Education		
High School	0	3
College of Agriculture	8	5
Other College	3	2
School of Agriculture	5	3
Income from Off Farm Work		
Member < 10%	5	1
> 10%	11	12
Spouse yes	4	5
no	12	8

Members of each group had much higher exposure to newsletters and information meetings than the average level expected for the farm community at large. About 2/3 of the farmers received newsletters, and an even larger number attended at least 1 market information meeting during the year. The group members identified newsletters and other media as their most useful sources of

information, although meetings and personal sources were ranked close behind.

See Table 2 for details on sources of information used by members before participating in this project.

TABLE 2 SOURCES OF INFORMATION

	SASKATOON	ROSETOWN
Number subscribing to Market letters	9 (69%)	7 (63%)
Number attending market information meetings	12 (92%)	9 (81%)

TABLE 3 RELATIVE IMPORTANCE OF INFORMATION SOURCES

	SASKATOON		ROSETOWN	
	Ranked First	Average Score*	Ranked First	Average Score*
Newsletters	4	2.9	4	2.7
Other Media	3	2.5	4	2.8
Public Meetings	2	2.3	2	2.3
Personal Sources	2	2.2	2	2.5

* Average score out of a possible 4, based on 4 for most useful, 1 for least useful etc.

The majority of farmers (75% at Saskatoon and 90% at Rosetown) indicated that they prepared financial projections for their farm on an annual basis. Most indicated that they did this for their own information and for their lender. Therefore, most of the farmers in each group were forming some type of market expectation for the coming year(s) as a basis for their formal financial forecasting for their farm business. However, most of the participants

selected were not very confident of their knowledge about market information, as revealed by Table 4.

TABLE 4 UNDERSTANDING OF MARKET INFORMATION

Area	Average Scores out of 5* Saskatoon	Rosetown
1. Understanding price trends	3.3	2.8
2. Interpreting media reports	3.0	2.8
3. Finding Supply/demand information	3.4	2.2
4. Understanding historic trends	2.7	2.2
5. Making price projections	2.7	2.2
6. Discussing with neighbours	3.1	2.7
7. Discussing with banker	3.1	2.9
Average Score	3.0	2.5

* Scores out of a possible 5, based on 5 for really confident and 1 for not at all confident

4.2 Meeting Schedules and Agendas

Times and places for meetings were determined by Farmwest personnel based on the preferences of group members and the availability of rooms and resources for alternative dates.

For the Saskatoon group, five meetings were schedule at night from 7:00-11:00 pm. Meetings were held at the Farmwest boardroom, at U. of S., and at the Saskatoon Inn.

For the Rosetown group, meetings were held from 10:00 a.m. to 4:00 p.m. in the SDA boardroom in Rosetown. One meeting was held at Prairie Malt in Biggar

and a joint session was held with the Saskatoon group in Saskatoon.

The first meetings were in December, 1987 with the majority of meetings scheduled from mid January to the first week in April, 1988.

The agendas for each meeting were determined by Farmwest personnel after consultation with group members. The topics, times and speakers were finalized by Farmwest and notices circulated to group members from the Farmwest office in Saskatoon.

Attendance at meetings was 90-100% for all scheduled meetings for both groups. The Saskatoon group meet 5 times, for a total of 20 hours. The Rosetown group met six times, for a total of 30 hours.

4.3 Topics and Presentations

4.3.1 Presentations on Fundamentals

Farmwest personnel made detailed presentations to explain the structure of world markets and supply/disposition characteristics of wheat, coarse grains and oilseeds. The relationships between carryover trends and strength or weakness in price trends was discussed in considerable detail.

A simple carryover analysis model was introduced and discussed. The trend in carryover is expected to change in response to carrying, production and disposition for each grain. The direction of the trend indicates the fundamental trends in the market. See Appendix B.

Projections for world supply/disposition and Canadian sales for 1988-89 were made during March and updated in early April with the benefit of North American seeding intentions published in early April.

Approximately 13 hours of meeting time was devoted to this area at Rosetown and approximately 8 hours at Saskatoon.

4.3.2 Government Policies

In addition to supply/disposition fundamentals, prices are also strongly influenced by EEC and USDA policies. Farmwest personnel made detailed presentations outlining target, intervention and threshold prices, levies and exporter refunds, all of which are part of the CAP in the EEC. Farmwest personnel also presented details on target prices, deficiency payments, loan rates, set asides and the EEP, all of which grow out of the 1985 Farm Bill and are part of USDA policy.

These policies were analyzed during group meetings with a view to explaining their impact on prices received by Canadian farmers.

Approximately 6 hours of meeting time was devoted to this area at Rosetown and approximately 3 hours at Saskatoon.

4.3.3 Other Topics and Speakers

The project participants were fortunate to have a presentation by Brian Oleson of the Canadian Wheat Board. A supper and evening meeting was held for members of both market groups. Professors A. Schmitz and K. Rosassen also

attended and participated in the discussions on CWB pricing and information policy.

Other outside speakers from the Saskatoon group included representatives from CSP foods (marketing specialty products), U. of S. (malting barley market requirements), the grain trade (special crop contracting), and Farmwest (grain transportation issues).

Other outside speakers from the Rosetown group included representatives from the grain trade (special crop contracting), the malting industry (tour of Prairie Malt), and Farmwest (producer cars).

Approximately 12 hours were devoted to these outside speakers at Rosetown and 8 hours in Saskatoon.

Several group members also made presentations on topics ranging from updates of supply/disposition and 1988-89 projections, special crop marketing, and alternate delivery methods. Approximately 4 hours were devoted to these presentations at Rosetown and about 2 hours at Saskatoon.

4.4 Crop Plans for 1988

Cash flow projections for the 1988 crop were completed for 10 farmers in the Rosetown group. The Farmwest Crop Plan Program was used to project cash flow including the contribution of farm operations, plus off-farm income and government payments. A previous version of this program was updated as part of this project. The new features included using trends in prices and costs and the inclusion of new graphic outcome displays. See Appendix C for a brief

explanation of the Farmwest Crop Plan Program and a sample output.

The participants provided the basic data on operating costs, debt service and family living. Each farmer supplied his own crop choices and yield and price expectations.

The use of the Farmwest Crop Plan program was limited to crop by crop analysis and cash flow projections for 1988. Due to time constraints, none of the farmers were able to complete the input for multi-year runs.

The crop planning process was especially difficult for farmers in the Rosetown area due to lack of moisture in 1987 and early 1988. As a result, most crop plans were quite tentative in early April, 1988.

4.5 Evaluation

4.5.1 Ongoing Feedback to Project Personnel

An informal evaluation procedure was followed after each meeting. Farmwest personnel attempted to gauge the level of satisfaction with the previous meeting and attempted to reflect the opinions sampled in developing the agenda for the next meeting.

As a result of this ongoing feedback, the participants were able to influence the emphasis and time devoted to various types of marketing information.

4.5.2 Analysis of Crop Plans

The crop plans and cash flow projections for the Rosetown group were analyzed in terms of the sensitivity of the cash flow outcomes to small changes in forecast prices.

The outcomes for several crops were analyzed in order to get some idea of how important accurate market information really is for the budgeting process.

4.5.3 The Final Questionnaire

A questionnaire was developed for use at the end of the project. Farmwest and U of S personnel structured the questionnaire so that conclusions about the effectiveness of the learning experience could be drawn.

The questionnaire was divided into five parts:

(1) Profile of participants - The objective was to get personal data, including age, farm size, education, off-farm work.

(2) Level of understanding before and after the project - The objective was to determine the participants perception of a movement from less understanding to more understanding for seven different categories of market intelligence. Changes were sought along a continuum of lack of confidence (not understanding at all) to confidence (understanding really well). Such changes would indicate that the materials used and the group meetings were valuable to the participants.

(3) Information Sources - The objective was to have the farmers compare several sources, including the market club meetings themselves. A high rank for the market club group meetings and source would indicate a positive assessment of the material and format.

(4) Crop Plans - The objective was to ask the participants to identify changes in cropping plans from the previous year, and to identify whether the learning experience through the market group had anything to do with the change. Although this question could not uncover the usefulness of information in terms of favorable outcomes of specific decisions, it did focus on whether the information gained in the marketing club was used for short term decision making.

(5) Future Courses - The objective here was to understand the participants' effective evaluation in terms of desire to continue, the need for changes, and their willingness to pay for future market information. A willingness to pay would indicate a market for marketing club facilitators.

For details concerning the final evaluation format, see Appendix D.

5.0 RESULTS

5.1 General Comments

The ongoing feedback and the results of the final evaluation were very positive. This probably reflected the type of individuals selected and their willingness and potential for learning more about grain markets. The fact that the participants were not "in a class" or just "hearing presentations" was mentioned in a positive context on several occasions by members of both groups.

The Rosetown group was able to develop into a marketing club unit. The Rosetown group definitely preferred the more informal atmosphere of the group discussions where the conversation could be controlled at the appropriate level.

The Rosetown group started in a poorer position of knowledge at the outset but they definitely had the better learning experience. They continued their group at the fall of 1988 on their own. The Saskatoon group did not continue on an organized basis. The time constraint related to after supper (and after work) meetings appeared to be the Saskatoon groups main reason for not continuing on their own. The after supper meeting time was not very satisfactory because of the limited time available of only 3-4 hours per meeting, and because most of the Saskatoon participants worked during the day and were usually somewhat tired and were generally not as ready for vigorous study and analysis of market information.

5.2 The Crop Plan Program

Ten participants completed 1988 crop plans and cash flow projections using the Farmwest Crop-Plan Program.

There were ten crop choices identified by the farmers. Summerfallow wheat was present on all farms and stubble flax was present on only one farm. The average farm had four crop choices, counting crops seeded on summerfallow and stubble as separate crops even though they could be the same grain.

The results indicated a serious cash flow problem was expected by most of the farmers in the Rosetown group. The returns per acre were generally enough to cover operating costs, and sometimes debt service, but returns were generally not sufficient to cover projected living costs as well. Based on these expectations, the group generally expected to increase debt to cover all cash requirements. See Table 5.

TABLE 5 NET RETURNS FOR 1988 CROP CHOICES

		Net Surplus (deficit)/acre*		
Crop	Yield bu/ac	Net Over operating Costs $/ac	Net over operating Costs and Debt Service $/ac	Net over operating costs, debt service family living $/ac
St. Wheat	33	15	(15)	(37)
Smf Wheat	25	40	10	(10)
St. Durum	25	27	0	(22)
St. Barley	25	25	(5)	(34)
Smf Barley	40	60	30	10
Smf Mustard	30	130	100	80
St. Flax	17	0	(31)	(50)
Smf. Flax	25	50	20	0
Smf. Birdseed	32	75	45	25
Smf Lentils	18	35	(5)	(25)
Average		$46/ac	$(6)/ac	$15/ac

* Yield and Price expectations for 1988 based on the Rosetown farmers forecast for each individual crop choice.

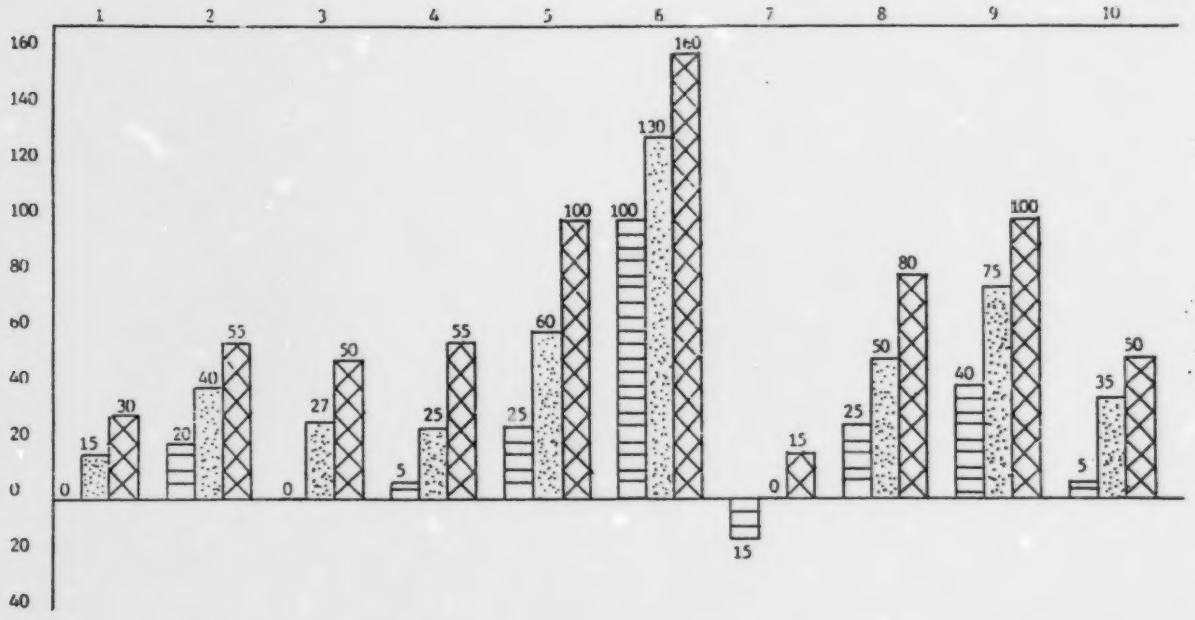
TABLE 6 SELECTED OPERATING COSTS

Cost Item	Range $/ac	Average $/ac
Repairs	$2-10	6
Fuel	3-10	7
Chemicals	2-23	9
Fertilizer	4-25	10

All of the crop choices (except for stubble flax) were expected to cover operating costs plus make some contribution to family living and debt service, even at prices 20% below expectations.

At prices 20% below expectations, substantial deficits would occur for most crop choices. For example, 8 out of 10 crop choices would fail to cover operating and debt service, and 9 out of 10 would fail to cover operating costs, debt service and family living. See Figures 1, 2 and 3.

Figure 1. Net Over Operating Costs Expected For 10 Crops, 1988



Key

1. Stubble Wheat
2. Summerfallow Wheat
3. Stubble Durum
4. Stubble Barley
5. Summerfallow Barley
6. Summerfallow Mustard
7. Stubble Flax
8. Summerfallow Flax
9. Summerfallow Canary Seed
10. Summerfallow Lentils

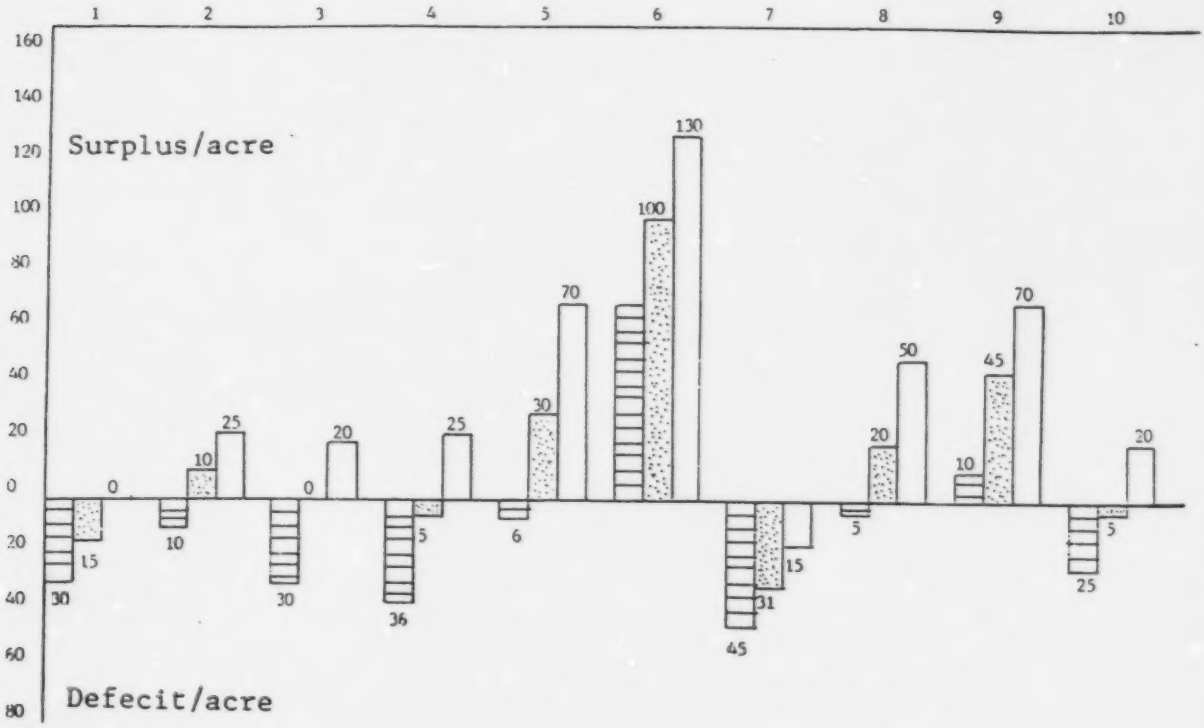
Price Expectations for 1988

20% Below Expectation

20% Above Expectation

* Net surplus or defecit per acre using average expectations for Rosetown Market Group.

Figure 2. Net Over Operating & Debt Service Costs For 10 Crop Choices, 1988



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7. Stubble Flax
8. Summerfallow Flax
9. Summerfallow Canary Seed
10. Summerfallow Lentils

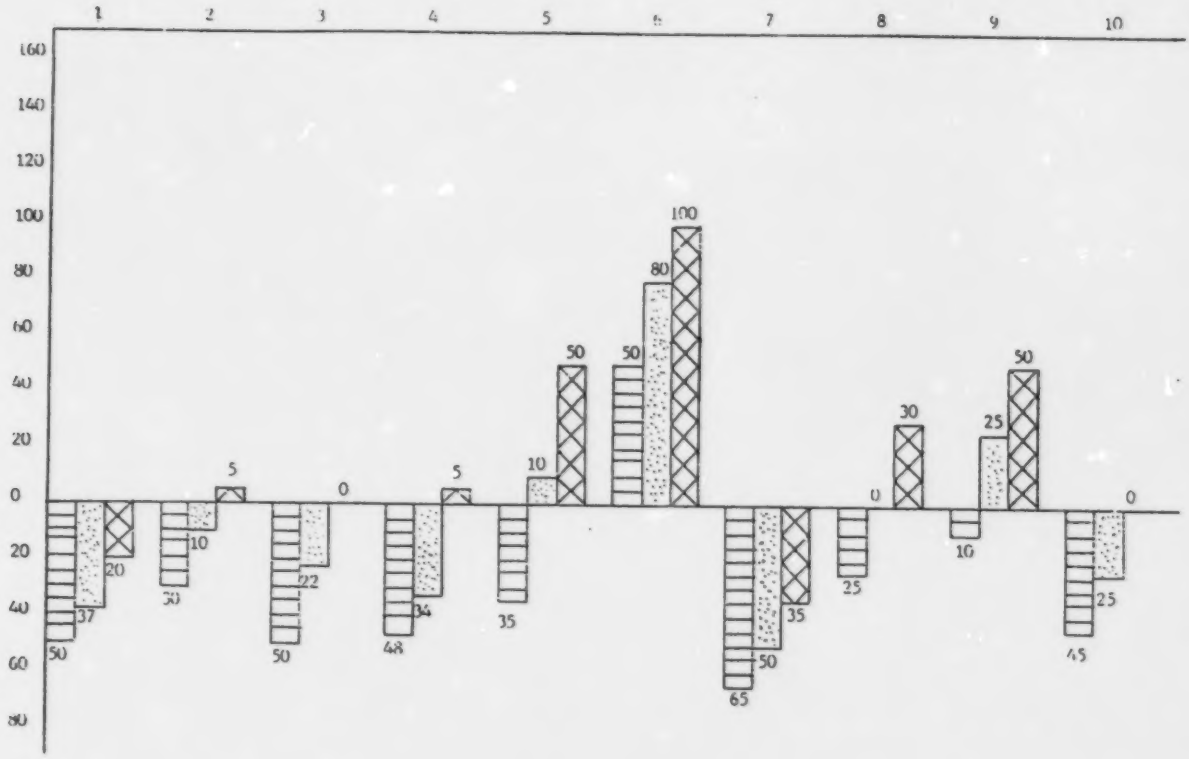
Price Expectations for 1988

20% Below Expectation

20% Above Expectation

* Net surplus or defecit per acre using average expectations and average debt service for Rosetown Market Group.

Figure 3. Net Over Operating, Debt Service & Family Living Costs For 10 Crop Choices, 1988



Key

1. Stubble Wheat
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5. Summerfallow Barley
6. Summerfallow Mustard
7. Stubble Flax
8. Summerfallow Flax
9. Summerfallow Canary Seed
10. Summerfallow Lentils

Price Expectations For 1988

20% Below Expectations

20% Above Expectations

* Net surplus or deficit per acre using average 1988 expectations, average debt service & average family living cost for Rosetown Market Group.

A 20% deviation from expected prices was associated with a $15 to $60/acre change in net return over operating costs. This point underlines the importance of accurate knowledge about market prices trends. Over the course of a normal growing season, it is usually expected to have at least a 10% change in the level of expected prices. This "normal change" coupled with forecasting error, can easily result in a 20% deviation in realized prices from original expectations.

These results emphasize the importance of following market trends throughout the growing season, because the cash flow from the original crop plan will change dramatically as markets reflect changing fundamentals.

The greatest potential for the Crop-Plan or similar other programs is in the ability of the farmer to "update" cash flow projections based on "new information" as it becomes available during the growing season. To make such programs effective management tools, market expectations have to be regularly updated throughout the summer.

5.3 Response to the Evaluation Questionnaire(1)

There were 29 individuals responses to the final evaluation. Answers to the series of questions focusing on the participants, perception of how much they had learned, indicated that the marketing group activities were very successful. Tables 7 through 14 summarize the increase in understanding and confidence which was identified by the participants.

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1 See Appendix D for details of the evaluation questionnaire and a detailed summary of the responses.

The Rosetown group had the most rewarding learning experience. Scores increased by an average of 53% on the series of seven questions. The Rosetown group registered the largest change (+77%) in their ability to get supply demand information. The marketing club was the first exposed to supply/disposition tables for most of the Rosetown group. Most of the Saskatoon group were already somewhat familiar with supply/disposition tables.

TABLE 7 HOW WELL DO YOU UNDERSTAND PRICE TRENDS

Group	Not at All 1	2	3	4	Really Well 5	Mean	
Saskatoon							
Before	0	1	9	6	0	3.3	
After	0	0	7	8	1	3.6	+9%
Rosetown							
Before	0	5	6	8	0	2.8	
After	0	0	2	8	3	4.1	+47%

TABLE 8 HOW WELL CAN YOU INTERPRET MEDIA REPORTS

Group	Not at All 1	2	3	4	Really Well 5	Mean	
Saskatoon							
Before	0	4	8	4	0	3.0	
After	0	0	9	6	1	3.5	+17%
Rosetown							
Before	0	6	4	3	0	2.8	
After	0	0	4	7	2	3.8	+39%

TABLE 9 HOW WELL CAN YOUR FIND DEMAND/SUPPLY INFORMATION

Group	Not at All 1	2	3	4	Really Well 5	Mean	
Saskatoon							
Before	0	4	4	6	2	3.4	
After	0	0	7	7	2	3.7	+9%
Rosetown							
Before	2	8	6	2	0	2.2	
After	0	1	3	6	3	3.7	+72%

TABLE 10 HOW WELL CAN YOU DRAW A MARKET TREND

Group	Not at All 1	2	3	4	Really Well 5	Mean	
Saskatoon							
Before	0	9	4	2	1	2.7	
After	0	3	7	6	0	3.2	+19%
Rosetown							
Before	3	6	2	2	0	2.2	
After	0	1	6	3	3	3.6	+62%

TABLE 11 HOW WELL CAN YOU MAKE 2 YEAR PROJECTIONS

Group	Not at All 1	2	3	4	Really Well 5	Mean	
Saskatoon							
Before	0	7	7	2	0	2.7	
After	0	2	9	4	1	3.3	+21%
Rosetown							
Before	2	8	1	2	0	2.2	
After	0	1	5	6	1	3.5	+59%

TABLE 12 HOW CONFIDENT ARE YOU IN DISCUSSING MARKET INFORMATION WITH NEIGHBOURS

Group	Not at All 1	2	3	4	Really Well 5	Mean	
Saskatoon							
Before	0	4	7	4	1	3.1	
After	0	2	7	6	1	3.4	+10%
Rosetown							
Before	0	5	7	1	0	2.7	
After	0	0	2	8	3	4.1	+51%

TABLE 13 HOW CONFIDENT ARE YOU IN DISCUSSING MARKET TRENDS WITH YOUR BANKER

Group	Not at All 1	2	3	4	Really Well 5	Mean	
Saskatoon							
Before	0	4	7	4	1	3.1	
After	0	2	7	6	1	3.4	+10%
Rosetown							
Before	0	3	9	0	1	2.9	
After	0	0	2	8	3	4.1	+41%

TABLE 14 SUMMARY OF PERCEPTIONS OF LEARNING EXPERIENCE

Area	Changes in Level of Understanding and Level of Confidence	
	Saskatoon	Rosetown
Table 7	+9%	+47%
Table 8	+17%	+39%
Table 9	+9%	+72%
Table 10	+19%	+62%
Table 11	+21%	+59%
Table 12	+10%	+51%
Table 13	+10%	+41%
Average Change	+14%	+53%

The importance of various sources of information revealed that the market group itself was ranked first overall by both groups. Twenty two of the 29 responses indicated that the market group was either the best or second but (along with newsletters) source of information. See Table 15.

TABLE 15 RANK THE SOURCES OF INFORMATION WHICH HAVE BEEN AVAILABLE TO YOU OVER THE PAST FEW MONTHS

Group	Most Important 1	2	3	4	Least Important 5	Weighted Mean	Rank
Newsletters							
Saskatoon	6	2	4	4	3	2.4	Second
Rosetown	4	4	3	1	1	2.3	Second
Media (Print, radio, T.V.)							
Saskatoon	2	2	1	3	3	4.0	Fourth
Rosetown	1	1	5	1	3	3.8	Fourth
Commodity Group Meetings							
Saskatoon	1	4	6	3	0	3.0	Third
Rosetown	1	1	2	5	0	4.1	Fifth
This Market Group							
Saskatoon	5	7	4	0	0	1.9	First
Rosetown	5	5	2	0	0	1.8	First
Professionals (Gov't, Industry, U. of S.)							
Saskatoon	2	1	0	5	4	4.1	Fifth
Rosetown	2	2	1	4	3	3.3	Third
Others (Neighbours friends, elevator agent etc.)							
Saskatoon	0	0	0	1	7	5.4	Sixth
Rosetown	0	0	0	2	5	5.4	Sixth

The evaluation on impact on seeding intentions was not productive in terms of usable information. The spring of 1988 was so dry in the area that respondents found it impractical to assume that there would be sufficient moisture for all crops, and seeding plans were in great uncertainty. The uncertainty especially applied to crops like canola, mustard, birdseed and all stubble crops. As a result, the data was not very meaningful as most respondents qualified their responses because of production concerns.

With regard to future courses, all 29 respondents indicated that they would like to participate in a marketing group next year. Most participants thought the group should start in November and continue until April. However, several respondents indicated that they thought the market club meetings should be on a year round basis.

Most respondents felt the club should meet monthly during the winter, or at least several times per year. The Rosetown group members indicated that the meetings should be all day. The Saskatoon group, most of whom had full time winter jobs, indicated a preference all day meetings also, but this alternative was not feasible for them. The timing problem presented a distinct disadvantage for the Saskatoon group, as unlike the Rosetown group, they were unable to consider topics in the required detail when they were fresh and well rested. Considering the difficulty and complexity of marketing information, the after supper alternative is not likely to be consistent with a favorable learning environment.

The respondents were asked to indicate changes which they would make for future group activities. The Rosetown group was mostly satisfied with the format used, although Saskatoon group which would have preferred more outside

speakers. Although presentations by members were limited to only several in each group, there was no indication that the participants wanted more involvement. This could be a natural consequence of a funded project, where outside speakers used as resource persons do not have a cost to the group. Willingness on the part of group members to research topics and make presentations themselves is likely a function of the cost of alternatives such as outside speakers. See Table 16.

TABLE 16 SUGGESTIONS FOR FUTURE CHANGES

Type of Change	Member Selecting	
	Saskatoon	Rosetown
More outside speakers	9	5
Program good as it is	5	8
More Presentations by group members	2	0
	16	13

The ultimate test of the value of any product is to determine what consumers might be willing to pay. Although farmers are not used to paying for information and adult eduction as if it were an input like fuel or repairs, the survey asked the respondents how much they would consider investing in market information, using the marketing group project as one reference point.

The responses are given in Table 17.

TABLE 17 IN RELATION TO OTHER INPUT COSTS, HOW MUCH WOULD YOU INVEST IN MARKET INFORMATION

Range	Saskatoon	Rosetown
less than $99	2	0
100 - 199	3	1
200 - 499	4	2
500 - 999	1	7
over 1,000	5	3
AVERAGE	$500	$700

Supposing that (say) 1/2 could be spent on newsletters and other information sources, that would leave $250 at Saskatoon and $350 at Rosetown which might be used to "buy" marketing group experience on an annual basis. For a group of 15 members, that would be a budget of $3,750 and $5,250 respectively.

A significant observation is that 8 farmers were willing to pay more than $1,000 per year for market information.

These responses indicate a high degree of satisfaction with the simple interpretive model used and with the marketing group experience. They also indicate that for farmers at this level of knowledge and interest, a market exists for a commercial service for marketing club facilitators.

5.4 Implications for Further Research

A long term project is required to track the outcomes of farm management decisions on which marketing information has a big impact. A project of at least 3-5 years duration would allow analysis of decisions and outcomes in order to determine how farmers actually use marketing information.

The results of this project would indicate that marketing information can

be presented in a simple and understandable way. However, whether would this be true with participants at a different level of education represents an important question which could be tested.

An ambivalent reaction to marketing information by some farmers rests on the idea that marketing information is too complicated for most farmers to understand, and secondly that production technology has a much more significant impact on economic outcomes of farm plans. These hypotheses should be tested with a long term research project involving actual farmers in several marketing groups over a period of 3-5 years.

APPENDICES

A. MEMBERSHIP OF MARKET CLUB GROUPS

B. EXAMPLES OF HANDOUT MATERIAL ON SUPPLY/DISPOSITION AND CARRYOVER TRENDS

C. FARMWEST CROP-PLAN PROGRAM

D. EVALUATION QUESTIONNAIRE AND RESPONSE SUMMARY

APPENDIX A

MEMBERSHIP OF MARKET CLUB GROUPS

MEMBERSHIP LIST FOR SASKATOON MARKET CLUB

	Farm Location	
Carman Berg	Tyner	373-3156
Jim Berg	Tyner	966-5320
Russ Campbell	Eston	966-5321
Bill Copeland	Hughton	378-2286
Bill Cooper	West Bend	477-2050
Jim Cooper	West Bend	955-7109
Bob Dodds	Loreburn	966-5323
Bain Fritzler	Govan	966-5321
Brent Gessell	Delisle	493-2943
Gordon Kent	Riverhurst	966-5322
Grant Milne	Abernethy	373-6030
Gratten O'Grady	Elstow	257-3730
Morris Sebulsky	Sheho	966-5323
Dale Smart	Moosimin	966-5322
Hugh Treimans	Blaine Lake	382-1830
Doug Sword	Unity	374-3673

MEMBERSHIP LIST FOR ROSETOWN MARKET GROUP

	Farm Location	
Colin Ahrens	Rosetown	882-3184
John Bennett	Biggar	948-2852
Bill Boyd	Eston	962-3526
Leam Craig	Biggar	948-2801
Terry Donahue	Biggar	948-2377
Marcel Dubois	Rosetown	882-2258
Jim Hammond	Biggar	948-2781
Owen Harbicht	Rosetown	378-4016
Al Hoogeveen	Biggar	948-2732
Ian McFadden	Milden	935-4628
Don McKinley	Biggar	948-2833
Wayne Robinson	Eston	962-4378
Don Sanderson	Elrose	882-3317
Rudy Wiens	Herschel	377-4800

APPENDIX B

EXAMPLES OF HANDOUT MATERIAL ON SUPPLY/DISPOSITION AND CARRYOVER TRENDS

Supply/Disposition Tables

Supply/disposition tables were distributed as published in The Agriculture Canada Market Commentary Series, the Alberta Department of Agriculture Grains and Oilseed Situation and Outlook series, and in the Farm Decision Resources newsletter.

Tables were constructed in the following format suitable for overhead transparencies for: world wheat coarse grains and soybean; Canadian wheat, durum, barley, canola and flax.

SUPPLY/DISPOSITION TABLE

	1985-86	1986-87	1987 88	1988-89 *
Acres Harvested				
Yield				
Production				
Carryover				
Total Supply				
Domestic Use				
Exports				
Total Use				
Ending Stocks				
Stocks/Use %				

* PROJECTION FOR 1988-89 WERE MADE BY THE MARKETING GROUP MEMBERS

These supply/disposition overheads were updated at regular meetings, and

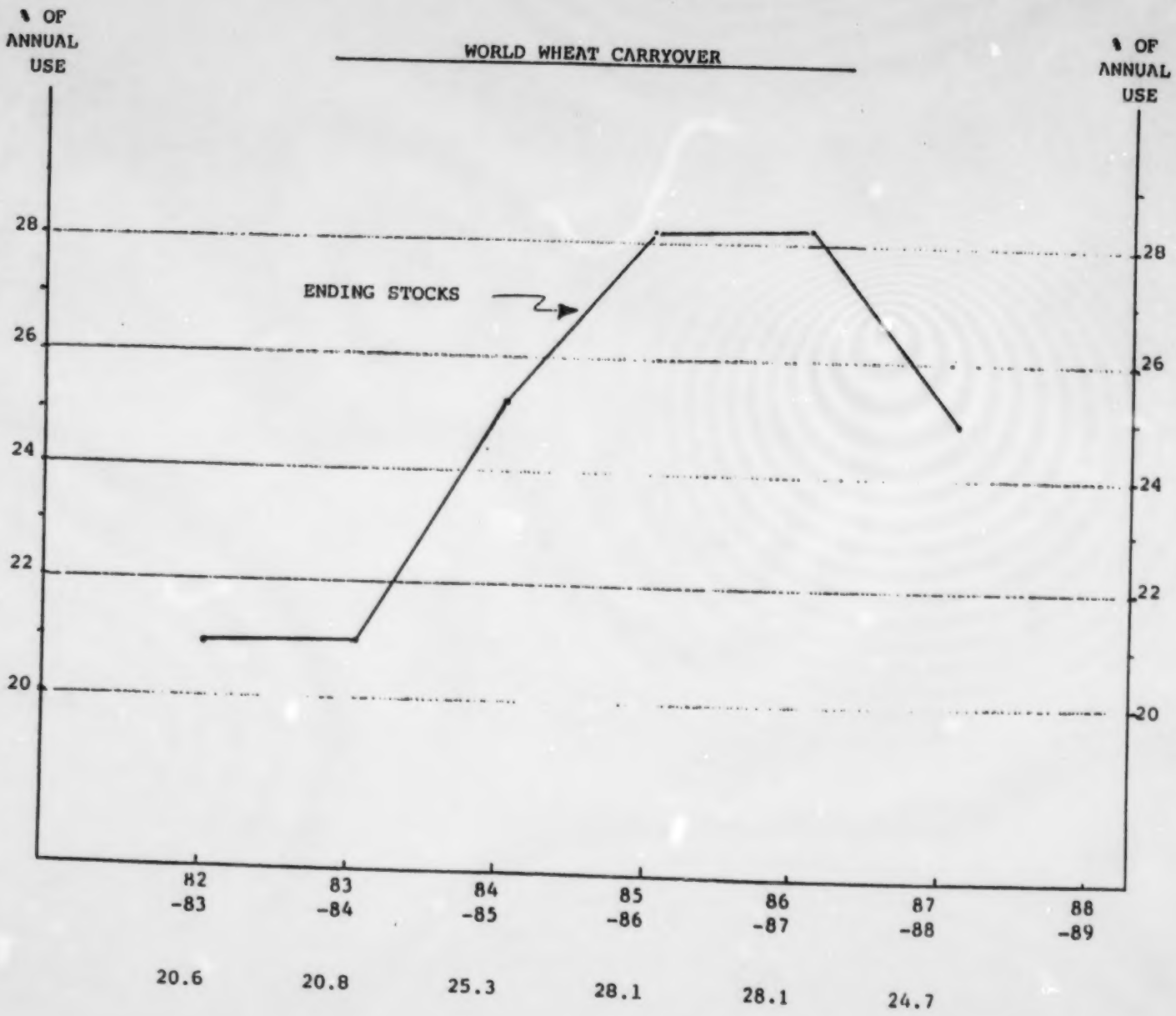
projections for 1988-89 were developed for each crop.

Carry-Over Trend Charts

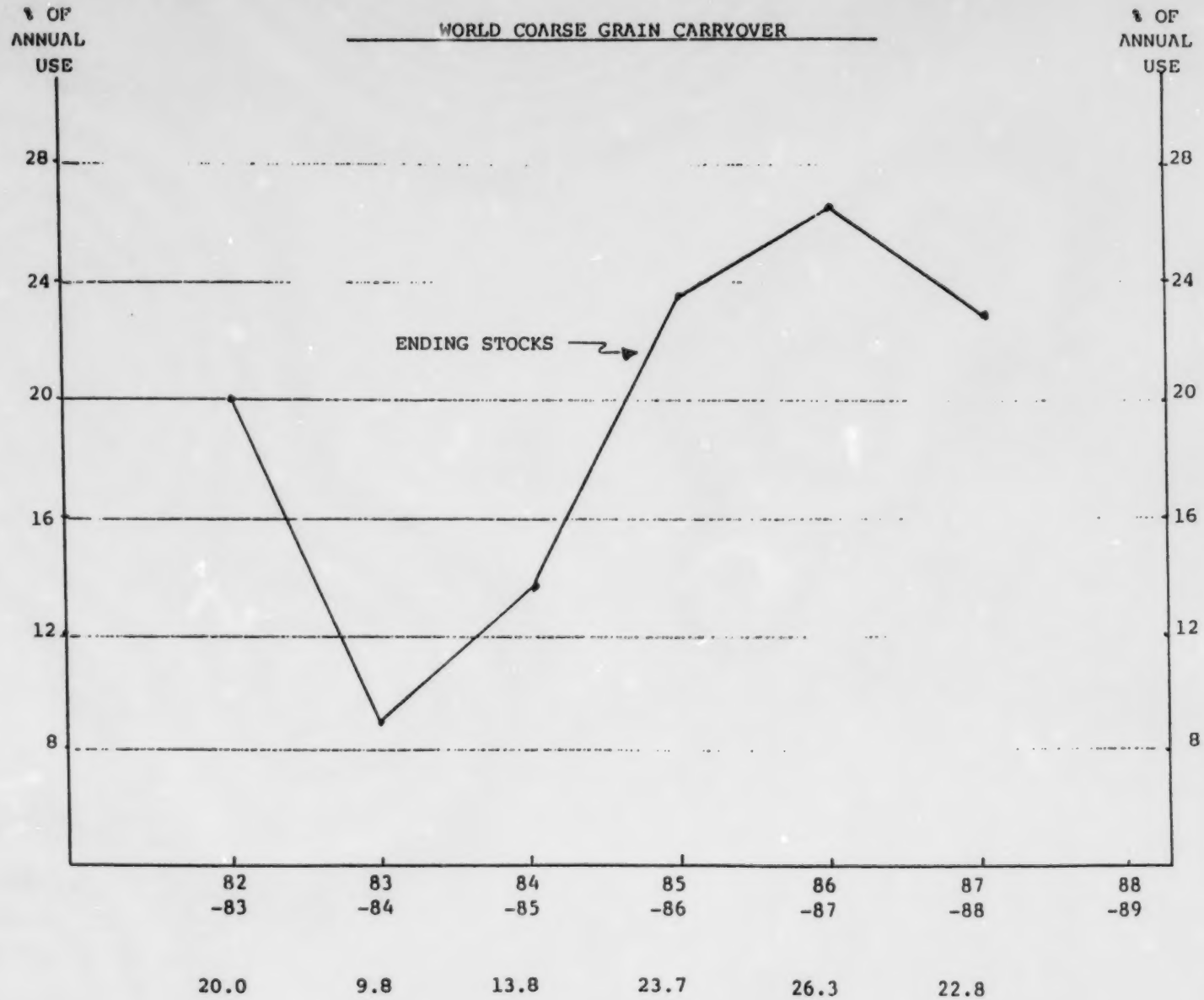
Carry-over trend charts were constructed and distributed to group members for world, USA and Canadian crops. These charts were intended to show trends from 1982-83 through to projections for 1988-89. The charts were updated for 1987-88 and the trends projected for 1988-89 were added at the time of the last meeting in early April, 1988.

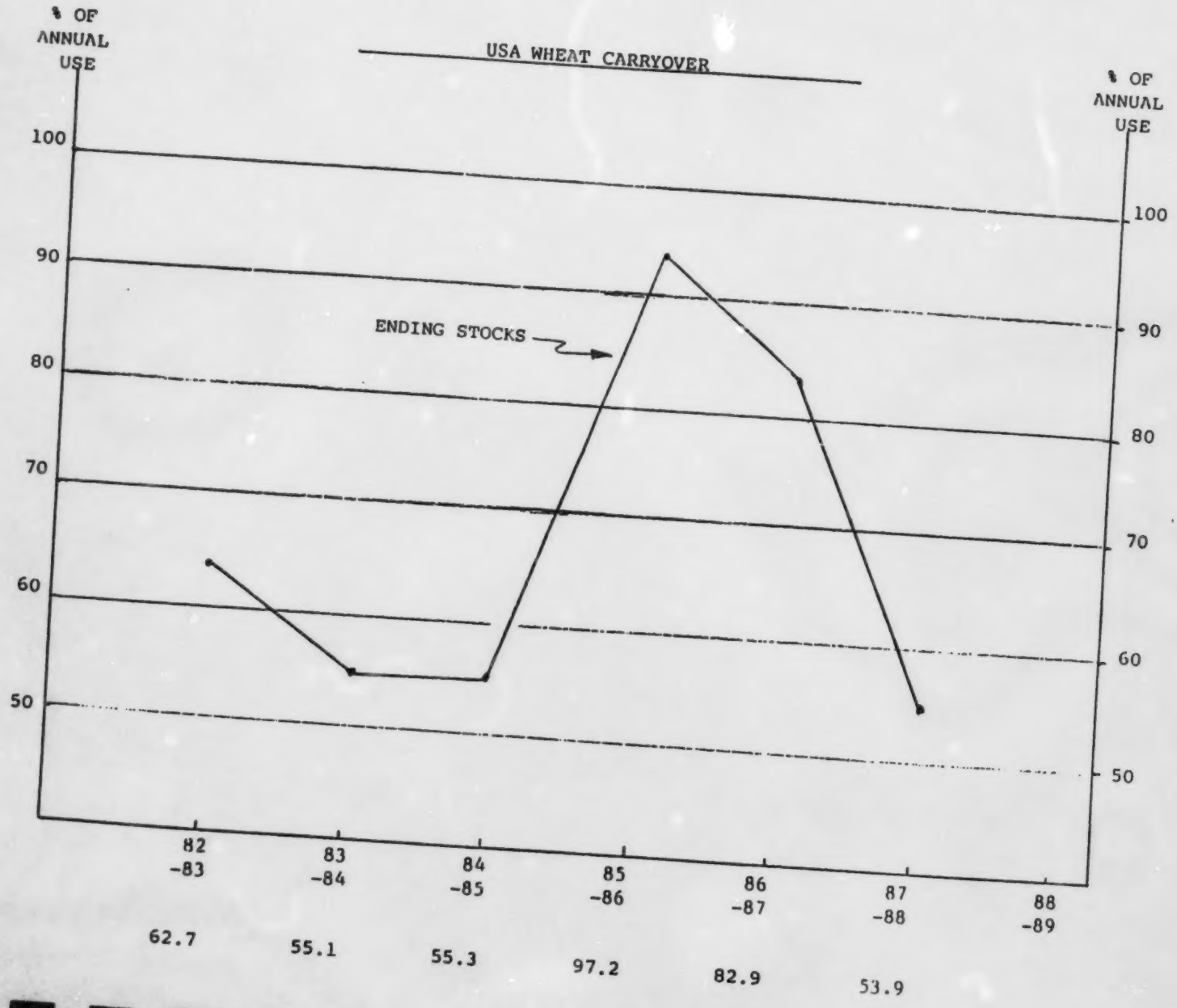
The historic relationships between carryover trends and price trends were discussed and price trends were projected for 1988-89 and 1989-90 based on different scenarios for carryover levels out of the 1988 crop.

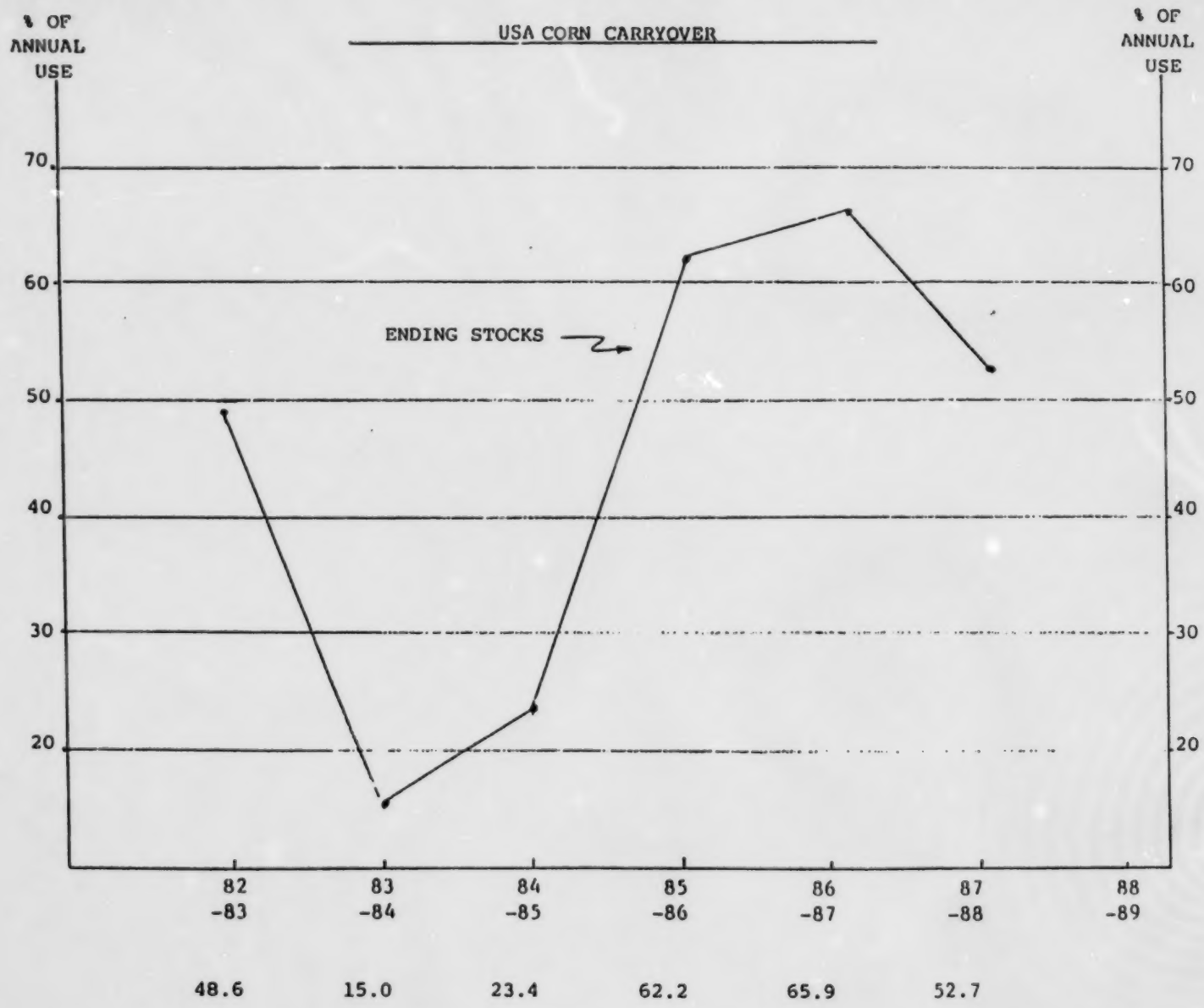
A total of 12 carryover trend charts were used. Several charts for selected world and USA crops are included as examples.


% OF ANNUAL USE
WORLD WHEAT CARRYOVER
% OF ANNUAL USE
28
26
24
22
20
ENDING STOCKS
82 -83
83 -84
84 -85
85 -86
86 -87
87 -88
88 -89
20.6
20.8
25.3
28.1
28.1
24.7

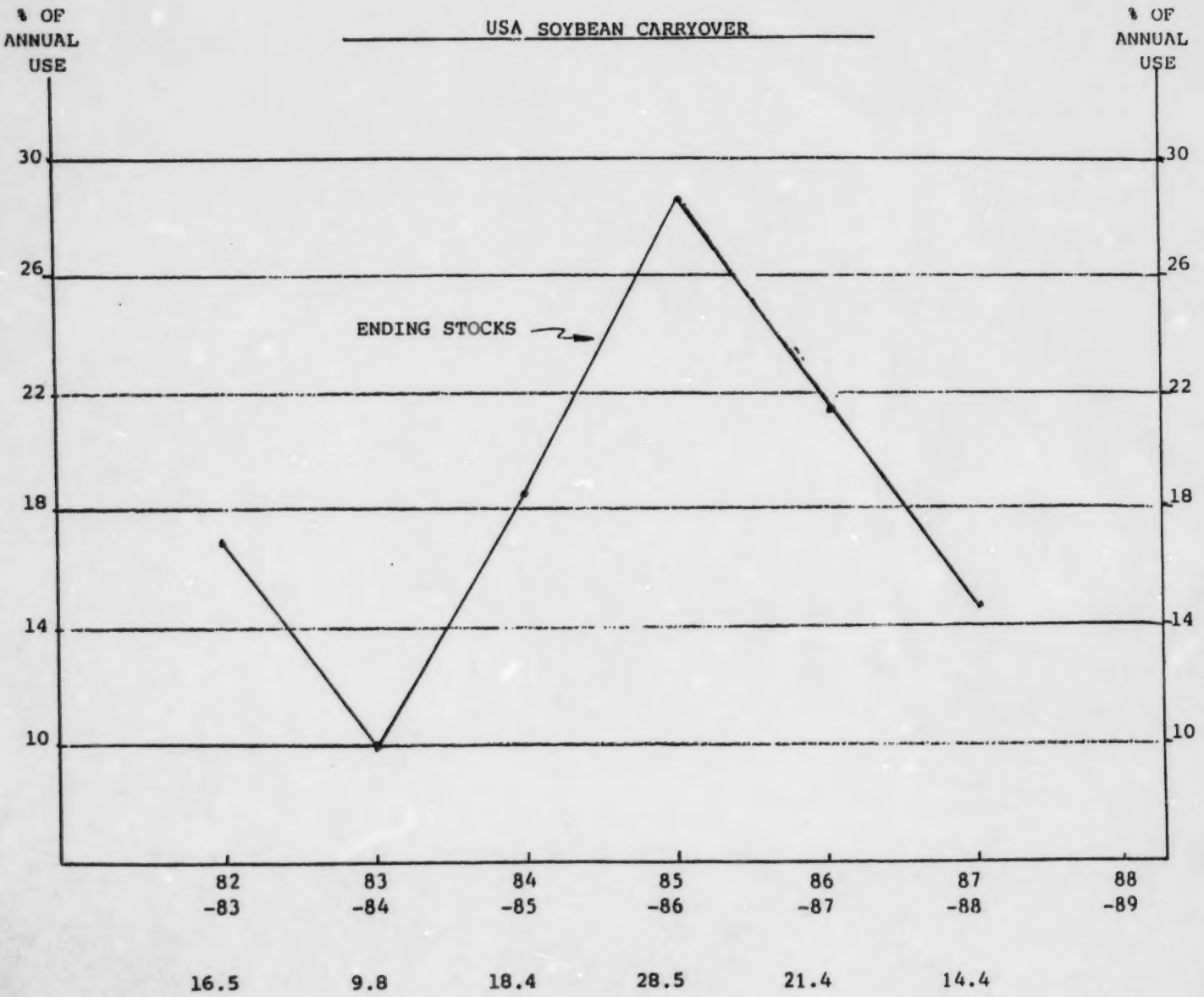
USDA


% OF ANNUAL USE
WORLD COARSE GRAIN CARRYOVER
% OF ANNUAL USE
28
24
20
16
12
8
ENDING STOCKS
82 -83
83 -84
84 -85
85 -86
86 -87
87 -88
88 -89
20.0
9.8
13.8
23.7
26.3
22.8
USDA


% OF ANNUAL USE
USA WHEAT CARRYOVER
% OF ANNUAL USE
100
90
80
70
60
50
ENDING STOCKS
82 -83
83 -84
84 -85
85 -86
86 -87
87 -88
88 -89
62.7
55.1
55.3
97.2
82.9
53.9
USDA


% OF ANNUAL USE
USA CORN CARRYOVER
% OF ANNUAL USE
70
60
50
40
30
20
ENDING STOCKS
82 -83
83 -84
84 -85
85 -86
86 -87
87 -88
88 -89
48.6
15.0
23.4
62.2
65.9
52.7

USDA


% OF ANNUAL USE
USA SOYBEAN CARRYOVER
% OF ANNUAL USE
30
26
22
18
14
10
ENDING STOCKS
82 -83
83 -84
84 -85
85 -86
86 -87
87 -88
88 -89
16.5
9.8
18.4
28.5
21.4
14.4

APPENDIX C

FARMWEST CROP-PLAN PROGRAM

DEMONSTRATION OUTPUT

DATA SUMMARY - 1

Input Screen #1 - Cash required in year 1 not assigned to specific crops
- includes cash outflows which are not "cropping costs" directly related to individual crops
- includes "fixed costs" for family living and debt service
- actual screen shown on Data Summary 1

Input Screen #2 - Number of years, market trends, debt schedule, yield trend
- for multi-year (2-5) runs
- includes trends for grain prices, inflation and debt schedule
- yields can be above or below average, good years first or last, or average through period
- actual screen shown on Data Summary 1

Input Screen #3 10 12 - Crop information including crop name, acres, quota acres, storage levels and limits, prices, yields, and cropping costs such as chemicals, fertilizer, seed and other costs assigned to individual crops
- actual screen not shown - see Data Summary 2

DATA SUMMARY - 2

This page is a summary of data on individual crops which the user specified on input screens 3 to 12. The program will accommodate up to 12 crop choices.

The quota restriction, discount for off quota sales and storage specifications are at the option of the user. Quota acres must be assigned however, and a very high quota level simply disallows any quota restriction.

DATA SUMMARY - 3

This represents a separate input screen which asks for additional information on other cash flows associated such as livestock, government payments (WGS etc.), off farm income, income tax and investment transactions.

This additional information allows for a complete statement of "where the money came from and where it went" in the form of a flow of funds statement.

CASH FLOW SUMMARY - 1

This output summarizes the cash flow for all crops consolidated into statement for the whole farm. (Special government payments, off farm income, or investment transactions are not included).

The "surplus" is available to replace equipment, pay income tax, pay debts off faster than anticipated, to spend more on the family than anticipated, or for making new investments. A "deficit" means that new debt would be required just to pay operating costs, family living and to keep old loans current.

This output provides price sensitivity analysis for all crops consolidated into one statement for the whole farm.

Note that the price and cost trends forecast show an increase in the yearly surplus of from $17,250 in year 1 to $66,075 in year 3. Also note that by year 3, a variation of ± 20% in actual prices causes the surplus to vary from $24,740 to $107,400.

FLOW OF FUNDS SUMMARY - YEAR 1

This statement summarizes the change in cash position after all cash transactions are accounted for.

In the case of the demo, information from Data Summary-3 is added to the crop cash flows, to give an increase in cash position of $55,250.

This output is for only the initial year.

CASH FLOWS FOR CROPS (1 TO 12)

A separate cash flow statement is provided for each crop, along with a storage summary if required. The other cash outlays (from Input Screen #1) are pro-rated to each crop on the basis of seeded acreage.

Break-even analysis is provided for each crop.

GRAPHIC OUTPUTS

After viewing the graphics on the monitor, the user may return to any of the input screens, or the outputs and graphics may be printed.

The four graphics include:

(1) Effect of price changes as surplus/deficit

(2) Review of various cash outflow items

(3) Contribution of each crop to surplus/deficit

(4) Flow of funds projection.

DATA SUMMARY — 1

29 MAR 1989 - 23:50 h

NAME: ROSETOWN MARKET GROUP DEMO

PLAN: DEMONSTRATION 1988

CASH REQUIRED IN YEAR 1, NOT ASSIGNED TO SPECIFIC CROPS

Debt service (principal + interest)	20000
Family living	30000
Custom work	1500
Fuel	12500
General insurance	1500
Hired labour	2500
Miscellaneous supplies	2500
Professional fees	1000
Rent	0
Repairs	9000
RM tax	5500
Utilities	2000
Other	1000

NUMBER OF YEARS IN RUN		3	
GRAIN PRICE FORECAST	year 2	125.0	percent of year 1
	3	150.0	
	4	100.0	
	5	100.0	
INFLATION FORECAST	year 2	105.0	percent of year 1
	3	110.0	
	4	100.0	
	5	100.0	
DEBT SERVICE SCHEDULE	year 2	25000	
	3	30000	
	4	0	
	5	0	

YIELD SCENARIO — Average through period

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DATA SUMMARY — 2

29 MAR 1989 - 23:50 h

crop number	crop name	seeded acres	quota acres	yield limit low	yield limit high
1	SMF WHEAT	400	1000	20	40
2	SMF MUSTARD	200	0	15	30
3	ST WHEAT	400	600	10	30
4	ST FLAX	200	200	10	20
5		0	0	0	0
6		0	0	0	0
7		0	0	0	0
8		0	0	0	0
9		0	0	0	0
10		0	0	0	0
11		0	0	0	0
12		0	0	0	0

total seeded acres	1200			
fallow	600			
total cultivated		1800		
other quota acres		0		
total quota acres			1800	1800

crop number	crop name	crop price contract	crop price quota	quota level	discount	storage limit	initial storage
1	SMF WHEAT	0.00	4.00	99	0	0	0
2	SMF MUSTARD	7.50	0.00	0	0	0	0
3	ST WHEAT	0.00	4.00	99	0	0	0
4	ST FLAX	0.00	8.00	99	0	0	0
5		0.00	0.00	0	0	0	0
6		0.00	0.00	0	0	0	0
7		0.00	0.00	0	0	0	0
8		0.00	0.00	0	0	0	0
9		0.00	0.00	0	0	0	0
10		0.00	0.00	0	0	0	0
11		0.00	0.00	0	0	0	0
12		0.00	0.00	0	0	0	0

crop number	crop name	chemicals	crop & hail ins	fertilizer nitrog	fertilizer phosph	fertilizer other	seed	other
1	SMF WHEAT	10.00	2.00	0.00	3.00	0.00	6.00	0.00
2	SMF MUSTARD	18.00	4.00	3.00	3.00	0.00	2.00	3.00
3	ST WHEAT	12.00	2.00	7.00	3.00	0.00	6.00	0.00
4	ST FLAX	3.00	2.50	5.00	2.00	0.00	10.00	0.00
5		0.00	0.00	0.00	0.00	0.00	0.00	0.00
6		0.00	0.00	0.00	0.00	0.00	0.00	0.00
7		0.00	0.00	0.00	0.00	0.00	0.00	0.00
8		0.00	0.00	0.00	0.00	0.00	0.00	0.00
9		0.00	0.00	0.00	0.00	0.00	0.00	0.00
10		0.00	0.00	0.00	0.00	0.00	0.00	0.00
11		0.00	0.00	0.00	0.00	0.00	0.00	0.00
12		0.00	0.00	0.00	0.00	0.00	0.00	0.00

DATA SUMMARY — 3

29 MAR 1989 - 23:50 h

	source	disposition
Farm - CWB	10000	
- livestock operations	0	0
- other operations	0	0
- government payments	20000	
Family - off-farm income	18000	0
- income tax	0	10000
Investments - savings	0	0
- equipment	0	0
- other	0	0

CASH FLOW SUMMARY — 1

29 MAR 1989 - 23:50 h

Name: ROSETOWN MARKET GROUP DEMO

Plan: DEMONSTRATION 1988

Seeded acres: 1200
Fallow acres: 600
Initial inventory (bushels): 0

	YEAR	1	2	3	4	5	PERIOD	$ PER SEEDED ACRE	ANNUAL MEAN
PRODUCTION (bushels)									
Contract crops		4500	4500	4500			13500		4500
Quota crops		23000	23000	23000			69000		23000
Total production		27500	27500	27500			82500		27500
REVENUE									
Contract crops		33750	42188	50625			126563	35.16	42188
Quota crops - at quota price		104000	130000	156000			390000	108.33	130000
- at discount price		0	0	0			0	0.00	0
Total revenue	[A]	137750	172188	206625			516563	143.49	172188
CASH OUTLAY									
Not assigned to crops									
Debt service		20000	25000	30000			75000	20.83	25000
Family living		30000	31500	33000			94500	26.25	31500
Custom work		1500	1575	1650			4725	1.31	1575
Fuel		12500	13125	13750			39375	10.94	13125
General insurance		1500	1575	1650			4725	1.31	1575
Hired labour		2500	2625	2750			7875	2.19	2625
Miscellaneous supplies		2500	2625	2750			7875	2.19	2625
Professional fees		1000	1050	1100			3150	0.87	1050
Rent		0	0	0			0	0.00	0
Repairs		9000	9450	9900			28350	7.87	9450
RM tax		5500	5775	6050			17325	4.81	5775
Utilities		2000	2100	2200			6300	1.75	2100
Other		1000	1050	1100			3150	0.87	1050
Total unassigned	[B]	89000	97450	105900			292350	81.21	97450
Assigned to crops									
Chemicals		13000	13650	14300			40950	11.38	13650
Crop & hail insurance		2900	3045	3190			9135	2.54	3045
Fertilizer - nitrogen		4400	4620	4840			13860	3.85	4620
- phosphate		3400	3570	3740			10710	2.97	3570
- other		0	0	0			0	0.00	0
Seed purchased		7200	7560	7920			22680	6.30	7560
Other		600	630	660			1890	0.52	630
Total assigned	[C]	31500	33075	34650			99225	27.56	33075
Total cash outlay	[D=B+C]	120500	130525	140550			391575	108.77	130525
SURPLUS/DEFICIT	[E=A-D]	17250	41663	66075			124988	34.72	41663
ACCUMULATED SURPLUS/DEFICIT		17250	58913	124988					
ACCUMULATED INVENTORY (bushels)		0	0	0					

CASH FLOW SUMMARY — 2

29 MAR 1989 - 23:50 h

Name: ROSETOWN MARKET GROUP DEMO

Plan: DEMONSTRATION 1988

Seeded acres: 1200
Fallow acres: 600
Initial inventory (bushels): 0

YEAR	1	2	3	4	5	PERIOD	$ PER SEEDED ACRE	ANNUAL MEAN
SURPLUS/DEFICIT AS A FUNCTION OF CROPPRICE								
Down 20 percent	-10300	7225	24750			21675	6.02	7225
Forecast price	17250	41663	66075			124988	34.72	41663
Up 20 percent	44800	76100	107400			228300	63.42	76100

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FLOW OF FUNDS SUMMARY — YEAR 1

29 MAR 1989 - 23:50 h

Name: ROSETOWN MARKET GROUP DEMO

Plan: DEMONSTRATION 1988

Seeded acres: 1200
Fallow acres: 600
Initial inventory (bushels): 0

---

		cash inflow	cash outflow	net contribution to surplus	deficit
Farm	- cash flow summary	137750	70500		
	- additional information	30000	0		
		167750	70500	97250	
Debt service	- cash flow summary		20000		20000
Family	- cash flow summary		30000		
	- additional information	18000	10000		
		18000	40000		22000
Investments	- additional information	0	0	0	
Total				97250	42000
Net surplus (increase in cash)				55250	

CASH FLOW FOR CROP NR. 1

29 MAR 1989 - 23:50 h

Name: ROSETOWN MARKET GROUP DEMO — Crop: SWF WHEAT

Acres: 400

Plan: DEMONSTRATION 1988 — Initial inventory (bushels): 0

	YEAR	1	2	3	4	5	PERIOD	$ PER SEEDED ACRE	ANNUAL MEAN
PRODUCTION									
Bushels/acre		30	30	30			90		30.0
Bushels		12000	12000	12000			36000		12000
REVENUE									
Contract crops		0	0	0			0	0.00	0
Quota crops - at quota price		48000	60000	72000			180000	150.00	60000
- at discount price		0	0	0			0	0.00	0
Total revenue	[A]	48000	60000	72000			180000	150.00	60000
CROPPING COSTS									
Chemicals		4000	4200	4400			12600	10.50	4200
Crop & hail insurance		800	840	880			2520	2.10	840
Fertilizer - nitrogen		0	0	0			0	0.00	0
- phosphate		1200	1260	1320			3780	3.15	1260
- other		0	0	0			0	0.00	0
Seed purchases		2400	2520	2640			7560	6.30	2520
Other		0	0	0			0	0.00	0
Total cropping costs	[B]	8400	8820	9240			26460	22.05	8820
REVENUE - CROPPING COSTS	[C=A-B]	39600	51180	62760			153540	127.95	51180
OTHER CASH OUTFLOWS (prorated by seeded acres)	[D]	29667	32483	35300			97450	81.21	32483
CONTRIBUTION TO SURPL/DEF	[E=C-D]	9933	18697	27460			56090	46.74	18697
ACCUMULATED SURPLUS DEFICIT		9933	28630	56090					
ACCUMULATED INVENTORY (bushels)		0	0	0					

AVERAGE YIELD (bushels/acre)	[F]	30.0
AVERAGE PRICE RECEIVED ($/bushel)	[G]	5.00
CASH FLOW BREAK EVEN ANALYSIS		
Target revenue to break even ($/acre)	[H=B+D]	103.26
Break even price at average yield ($/bushel)	[I=H/F]	3.44
Break even yield at forecast price (bushels/acre)	[J=H/G]	20.7

CASH FLOW FOR CROP NR. 2

29 MAR 1989 - 23:50 h

Name: ROSETOWN MARKET GROUP DEMO — Crop: SMF MUSTARD

Acres: 200

Plan: DEMONSTRATION 1988 — Initial inventory (bushels): 0

	YEAR	1	2	3	4	5	PERIOD	$ PER SEEDED ACRE	ANNUAL MEAN
PRODUCTION									
Bushels/acre		23	23	23			68		22.5
Bushels		4500	4500	4500			13500		4500
REVENUE									
Contract crops		33750	42188	50625			126563	210.94	42188
Quota crops - at quota price		0	0	0			0	0.00	0
- at discount price		0	0	0			0	0.00	0
Total revenue	[A]	33750	42188	50625			126563	210.94	42188
CROPPING COSTS									
Chemicals		3600	3780	3960			11340	18.90	3780
Crop & hail insurance		800	840	880			2520	4.20	840
Fertilizer - nitrogen		600	630	660			1890	3.15	630
- phosphate		600	630	660			1890	3.15	630
- other		0	0	0			0	0.00	0
Seed purchased		400	420	440			1260	2.10	420
Other		600	630	660			1890	3.15	630
Total cropping costs	[B]	6600	6930	7260			20790	34.65	6930
REVENUE - CROPPING COSTS	[C=A-B]	27150	35258	43365			105773	176.29	35258
OTHER CASH OUTFLOWS (prorated by seeded acres)	[D]	14833	16242	17650			48725	81.21	16242
CONTRIBUTION TO SURPL/DEF	[E=C-D]	12317	19016	25715			57048	95.08	19016
ACCUMULATED SURPLUS DEFICIT		12317	31333	57048					
ACCUMULATED INVENTORY (bushels)		0	0	0					

AVERAGE YIELD (bushels/acre)	[F]	22.5
AVERAGE PRICE RECEIVED ($/bushel)	[G]	9.38
CASH FLOW BREAK EVEN ANALYSIS		
Target revenue to break even ($/acre)	[H=B+D]	115.86
Break even price at average yield ($/bushel)	[I=H/F]	5.15
Break even yield at forecast price (bushels/acre)	[J=H/G]	12.4

FarmWest Croplan 2.10, Copyright Herman R. Cooley [illegible]

CASH FLOW FOR CROP NR. 3

29 MAR 1989 - 23:50 h

Name: ROSETOWN MARKET GROUP DEMO
Crop: ST WHEAT
Acres: 400
Plan: DEMONSTRATION 1988
Initial inventory (bushels): 0

YEAR		1	2	3	4	5	PERIOD	$ PER SEEDED ACRE	ANNUAL MEAN
PRODUCTION									
Bushels/acre		20	20	20			60		20.0
Bushels		8000	8000	8000			24000		8000
REVENUE									
Contract crops		0	0	0			0	0.00	0
Quota crops - at quota price		32000	40000	48000			120000	100.00	40000
- at discount price		0	0	0			0	0.00	0
Total revenue	[A]	32000	40000	48000			120000	100.00	40000
CROPPING COSTS									
Chemicals		4800	5040	5280			15120	12.60	5040
Crop & hail insurance		800	840	880			2520	2.10	840
Fertilizer - nitrogen		2800	2940	3080			8820	7.35	2940
- phosphate		1200	1260	1320			3780	3.15	1260
- other		0	0	0			0	0.00	0
Seed purchased		2400	2520	2640			7560	6.30	2520
Other		0	0	0			0	0.00	0
Total cropping costs	[B]	12000	12600	13200			37800	31.50	12600
REVENUE - CROPPING COSTS	[C=A-B]	20000	27400	34800			82200	68.50	27400
OTHER CASH OUTFLOWS (prorated by seeded acres)	[D]	29667	32483	35300			97450	81.21	32483
CONTRIBUTION TO SURPL/DEF	[E=C-D]	-9667	-5083	-500			-15250	-12.71	-5083
ACCUMULATED SURPLUS DEFICIT		-9667	-14750	-15250					
ACCUMULATED INVENTORY (bushels)		0	0	0					

AVERAGE YIELD (bushels/acre)	[F]	20.0
AVERAGE PRICE RECEIVED ($/bushel)	[G]	5.00
CASH FLOW BREAK EVEN ANALYSIS		
Target revenue to break even ($/acre)	[H=B+D]	112.71
Break even price at average yield ($/bushel)	[I=H/F]	5.64
Break even yield at forecast price (bushels/acre)	[J=H/G]	22.5

CASH FLOW FOR CROP NR. 4

29 MAR 1989 - 23:50 h

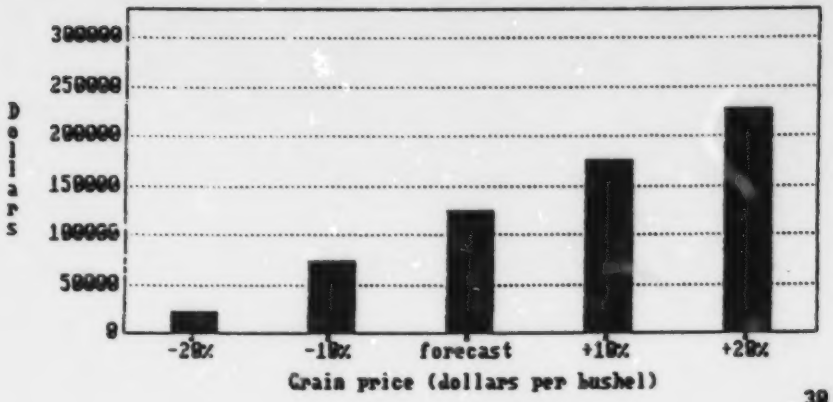
Name: ROSETOWN MARKET GROUP DEMO
Plan: DEMONSTRATION 1988

Crop: ST FLAX
Acres: 200
Initial inventory (bushels): 0

	YEAR	1	2	3	4	5	PERIOD	$ PER SEEDED ACRE	ANNUAL MEAN
PRODUCTION									
Bushels/acre		15	15	15			45		15.0
Bushels		3000	3000	3000			9000		3000
REVENUE									
Contract crops		0	0	0			0	0.00	0
Quota crops - at quota price		24000	30000	36000			90000	150.00	30000
- at discount price		0	0	0			0	0.00	0
Total revenue	[A]	24000	30000	36000			90000	150.00	30000
CROPPING COSTS									
Chemicals		600	630	660			1890	3.15	630
Crop & hail insurance		500	525	550			1575	2.63	525
Fertilizer - nitrogen		1000	1050	1100			3150	5.25	1050
- phosphate		400	420	440			1260	2.10	420
- other		0	0	0			0	0.00	0
Seed purchased		2000	2100	2200			6300	10.50	2100
Other		0	0	0			0	0.00	0
Total cropping costs	[B]	4500	4725	4950			14175	23.63	4725
REVENUE - CROPPING COSTS	[C=A-B]	19500	25275	31050			75825	126.38	25275
OTHER CASH OUTFLOWS (prorated by seeded acres)	[D]	14833	16242	17650			48725	81.21	16242
CONTRIBUTION TO SURPL/DEF	[E=C-D]	4667	9033	13400			27100	45.17	9033
ACCUMULATED SURPLUS DEFICIT		4667	13700	27100					
ACCUMULATED INVENTORY (bushels)		0	0	0					

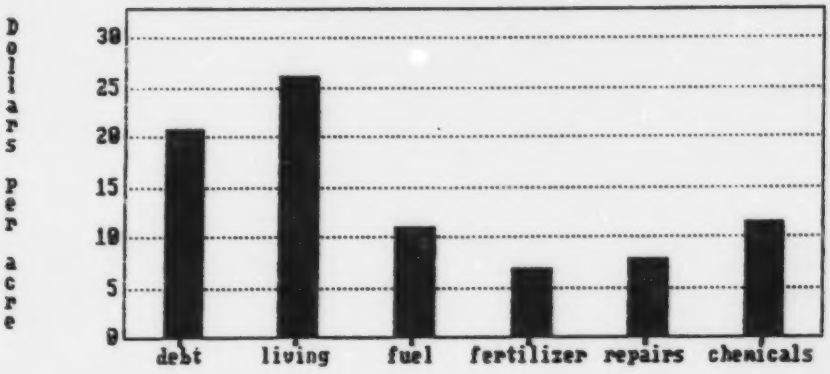
AVERAGE YIELD (bushels/acre)	[F]	15.0
AVERAGE PRICE RECEIVED ($/bushel)	[G]	10.00
CASH FLOW BREAK EVEN ANALYSIS		
Target revenue to break even ($/acre)	[H=B+D]	104.83
Break even price at average yield ($/bushel)	[I=H/F]	6.99
Break even yield at forecast price (bushels/acre)	[J=H/G]	10.5

Cash surplus/deficit vs. grain price



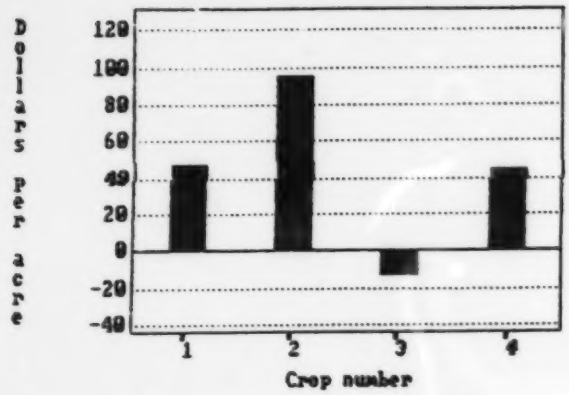
30 MAR 1989
01:05 h

Average cash outflow per year for six major costs



30 MAR 1989
01:05 h

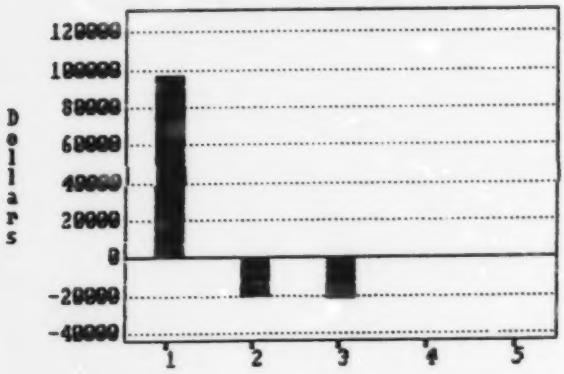
Contribution to surplus/deficit



1 - SMF WHEAT
2 - SMF MUSTARD
3 - ST WHEAT
4 - ST FLAX

30 MAR 1989
01:05 h

Flow of funds projection



1 - Farm operations
2 - Debt service
3 - Family
4 - Investments
5 -

30 MAR 1989
01:05 h

APPENDIX D

EVALUATION QUESTIONNAIRE AND RESPONSE SUMMARY

MORE EFFECTIVE USE OF MARKET INFORMATION FOR FINANCIAL PLANNING

One of the most important functions of business management is to interpret market signals and to use the information for financial planning. You have been involved in a process which uses a more "market oriented approach" to farm management. Your feedback on this evaluation is important to help us improve this process for the next group of farmers who may wish to participate. Thank you for your help.

PART ONE: Profile of Farmer

Please mark with a ✓ in the appropriate ❑ which indicates your situation.

A. Age:

Under 35 ❑
Between 35 and 44 ❑
Between 45 and 54 ❑
Over 54 ❑

B. Farm Size:

Under 760 acres ❑
Between 760 and 1599 acres ❑
Between 1600 and 2880 acres ❑
Over 2880 acres ❑

C. Highest Education Completed:

High School ❑
School of Ag. ❑
College of Ag. ❑
Graduate Studies ❑
Other _____

D. Farming Involvement:

Part time ❑ (more than 10% of gross income from off farm sources)

Full time ❑ (less than 10% of gross income from off farm income)

E. Does your spouse have an off farm income?

Yes ❑ No ❑

PART TWO: Level of Understanding of Issues Relating to Market Information

Please attempt to recall your level of understanding last fall of the following issues. Circle the number which best describes your situation.

A. How well did you understand yearly price trends in the grain system?

1	2	3	4	5
not at all				really well

B. How well could you interpret the market trends as reported in the media?

1	2	3	4	5
not at all				really well

C. How well do you feel that you could have found supply/demand information.

1	2	3	4	5
not at all				really well

D. How well could you have drawn a market trend line relating to grains?

1	2	3	4	5
not at all				really well

E. How was your ability to make a two-year price projection for cereal grains?

1	2	3	4	5
couldn't do it				no problem

F. How confidently could you discuss market trends with your neighbors?

1	2	3	4	5
not at all				really well

G. How confidently could you have talked to your banker in relation to market trends?

1	2	3	4	5
not at all				really well

Now that you have spent several hours this winter discussing market issues and market trends, please indicate your level of understanding by placing a circle around the correct number.

A. How well do you understand the yearly price trends in the grain industry.

1	2	3	4	5
not at all				really well

B. How well can you interpret the market trends reported in the media?

1	2	3	4	5
not at all				really well

C. How well can you find supply/demand information?

1	2	3	4	5
not at all				really well

D. How confident are you in predicting a trend line for grain markets?

1	2	3	4	5
not at all				really well

E. How well do you feel you can make a two-year price projection for cereal grains?

1	2	3	4	5
not at all				really well

F. How confident are you in discussing market trends with your neighbors?

1	2	3	4	5
not at all				really well

G. How confident do you feel in discussing market trends and your farm enterprise with your banker?

1	2	3	4	5
not at all				really well

PART THREE: Sources of Information

There are many sources of information relating to crop marketing available to farmers. The following list indicates the most available sources you would have had this past few months. Please rank these in order of importance to you. Place a number 1 in the appropriate ☐ for the most important source. Please rank all of the sources.

- ☐ Newsletters
- ☐ Media (print, radio, T.V.)
- ☐ Meetings of commodity groups (i.e. Canola Growers)
- ☐ Market group meetings (your market group
- ☐ Professional Agrologists (government, industry, university people)
- ☐ Individuals (neighbours, friends, elevator manager, etc.)

Comments _____

_____

_____

_____

_____

PART FOUR: Impact on your farm

Now that you have spent several hours this winter discussing market issues and market trends, we would like to know what impact this would have on your 1988 seeding plans. Assume that there is sufficient moisture for all crops, that you have available field space and that your decisions will be market related. Please complete the following chart.

Crops Grown in 1987 on my farm include summerfallow	I plan to increase or decrease or do the same or add in 1988.	I believe that my decision relates to what I have learned from the market group experience Yes or No
Example		
Wheat	decrease	yes
Peas	add	yes

PART FIVE: Future Courses

Would you like to participate in a Marketing Group next year?

Yes ☐ No. ☐

If yes, please continue.

A. What month should it start? _____

B. What month should it end? _____

C. How often should it meet? _____

_____

D. When should it meet? (Indicate all day, evenings only, afternoons or when?)

_____

_____

_____

E. To enable planners for future marketing group activities, please provide your thoughts on the following possibilities for changes. Check only the one that best describes in your opinion.

☐ We should have more outside speakers (Bens, Cooper, etc. would not be considered to be outside speakers.)

☐ I think that our program was good as is.

☐ More presentations prepared and given by group participants would be better.

What other suggestions would you make?

_____

_____

_____

f. What in your opinion is the single most important topic that should be discussed to enable you to more clearly understand and improve your marketing capabilities?

_____

_____

_____

_____

g. There are several necessary inputs required in crop production. These include chemicals, fertilizers, fuel, machinery, etc. All cost money. Information is not always considered as an input yet it too is essential.

In relation to your other input costs on your farm, how much would you invest in market information? (Please use a dollar figure.)

I would consider investing $ _____

Thank you for your participation in this survey.

SASKATOON MARKET CLUB

Group A

X_1: Age

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.5	.966	.242	.933	38.644	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	4	3	40	114	0

1

X_2: Farm Size

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.562	.814	.203	.663	31.764	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	4	2	41	115	0

2

X_3: Educ.

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.062	1.063	.266	1.129	34.698	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	49	167	0

3

X_4: Involvement

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1.688	.479	.12	.229	28.368	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	2	1	27	49	0

4

X_5: Spouse $

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1.733	.458	.118	.21	26.408	15
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	2	1	26	48	1

5

Group A

X_6: 2A

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.312	.602	.151	.363	18.176	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	4	2	53	181	0

6

X_7: 2B

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3	.73	.183	.533	24.343	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	4	2	48	152	0

7

X_8: 2C

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.375	1.025	.256	1.05	30.361	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	54	198	0

8

X_9: 2D

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.688	.946	.237	.896	35.218	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	43	129	0

9

X_{10}: 2E

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.688	.704	.176	.496	26.201	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	4	2	43	123	0

10

Group A

X_{11}: 2F

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.125	.885	.221	.783	28.322	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	50	168	0

11

X_{12}: 2G

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.125	.719	.18	.517	23.001	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	4	2	50	164	0

12

X_{13}: 2AA

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.625	.619	.155	.383	17.08	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
3	5	2	58	216	0

13

X_{14}: 2BB

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.5	.632	.158	.4	18.07	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
3	5	2	56	202	0

14

X_{15}: 2CC

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.688	.704	.176	.496	19.096	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
3	5	2	59	225	0

15

X_{16}: 2DD

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.188	.75	.188	.562	23.529	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	4	2	51	171	0

16

X_{17}: 2EE

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.25	.775	.194	.6	23.834	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	52	178	0

17

X_{18}: 2FF

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.375	.806	.202	.65	23.888	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	54	192	0

18

X_{19}: 2GG

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.562	.964	.241	.929	27.058	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	57	217	0

19

X_{20}: Newsletters

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.438	1.365	.341	1.862	55.989	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	5	4	39	123	0

20

X_{21}: Media

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
4	1.813	.468	3.286	45.316	15
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	6	5	60	286	1

21

X_{22}: Commodity G

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3	1.195	.309	1.429	39.841	15
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	6	5	45	155	1

22

X_{23}: Market G

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1.938	.772	.193	.596	39.84	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	3	2	31	69	0

23

X_{24}: Agrologist

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
4.133	1.642	.424	2.695	39.719	15
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	6	5	62	294	1

24

X_{25}: Individuals

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
5.4	.632	.163	.4	11.712	15
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
4	6	2	81	443	1

25

X_{26}: Future Part.

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1	0	0	0	0	15
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	1	0	15	15	1

26

X_{27}: Future Changes

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1.562	.727	.182	.529	46.556	16
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	3	2	25	47	0

27

X_{28}: Invest

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.267	1.486	.384	2.21	45.503	15
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	5	4	49	191	1

28

	MARKET INFORMATION SURVEY	Age	Farm Size	Educ.
		X_1	X_2	X_3
1	1	2	2	2
2	2	2	4	5
3	3	4	3	2
4	4	1	2	3
5	5	3	2	5
6	6	3	2	3
7	7	3	2	2
8	8	3	3	3
9	9	1	2	2
10	10	4	3	3
11	11	3	4	3
12	12	3	2	3
13	13	3	2	3
14	14	2	4	2
15	15	2	2	5
16	16	1	2	3

	Involvement	Spouse $	2A	2B	2C	2D	2E	2F	2G
	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}
1	2	2	3	2	4	2	2	2	2
2	2	2	4	4	3	2	2	3	3
3	2	2	2	2	4	2	2	2	2
4	1	2	3	4	5	2	4	3	3
5	1	2	3	3	4	4	3	2	3
6	2	2	4	3	2	3	3	4	4
7	2	1	4	2	3	3	3	4	4
8	2	1	4	4	4	4	3	3	3
9	2	•	3	3	2	2	2	3	3
10	2	2	3	3	4	3	3	3	3
11	2	2	3	3	3	2	3	3	3
12	1	2	3	3	4	2	3	4	4
13	1	2	3	2	3	2	2	3	3
14	2	2	4	4	2	3	2	4	4
15	1	1	3	3	2	2	2	2	2
16	2	1	4	3	5	5	4	5	4

	2AA	2BB	2CC	2DD	2EE	2FF	2GG	Newsletters	Media
	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}
1	3	3	4	2	2	2	2	1	5
2	4	4	3	3	3	3	3	1	2
3	3	3	3	3	3	3	3	3	4
4	4	4	5	2	4	3	2	4	1
5	3	3	4	4	3	2	3	5	3
6	4	3	3	4	4	4	5	4	6
7	4	4	4	3	3	4	5	2	6
8	4	4	4	3	3	3	3	4	5
9	3	3	3	2	2	3	4	2	1
10	3	3	4	4	4	4	4	1	•
11	3	3	3	3	3	3	3	3	4
12	4	4	4	3	3	4	4	1	6
13	4	3	4	4	4	4	4	1	6
14	4	4	3	4	3	4	4	3	5
15	3	3	3	3	3	3	3	3	2
16	5	5	5	4	5	5	5	1	4

	Commodity 6	Market 6	Agrologist	Individuals	Future Part.
	[redacted] X_{22} [redacted]	[redacted] X_{23} [redacted]	[redacted] X_{24} [redacted]	[redacted] X_{25} [redacted]	[redacted] X_{26} [redacted]
1	3	2	4	6	1
2	4	3	5	6	1
3	6	1	2	5	•
4	3	2	5	6	1
5	2	1	4	6	1
6	3	2	1	5	1
7	3	1	4	5	1
8	3	2	1	6	1
9	4	3	6	5	1
10	•	2	•	•	1
11	2	1	6	5	1
12	2	3	4	5	1
13	3	2	5	4	1
14	1	2	4	6	1
15	4	1	5	6	1
16	2	3	6	5	1

	Future Changes	Invest
	X_{27}	X_{28}
1	1	5
2	1	5
3	1	1
4	2	2
5	2	2
6	1	1
7	2	4
8	3	5
9	3	3
10	1	3
11	1	5
12	1	3
13	2	2
14	1	5
15	1	3
16	2	•

MARKET INFORMATION SURVEY
GROUP A

1	2	2	2	2	2	3	2	4	2	2	2	2	3	3	4	2	2	2	2	1	5	3	2	4	6	1	1	5
2	2	4	5	2	2	4	4	3	2	2	3	3	4	4	3	3	3	3	3	1	2	4	3	5	6	1	1	5
3	4	3	2	2	2	2	2	4	2	2	2	2	3	3	3	3	3	3	3	3	4	6	1	2	5	.	1	1
4	1	2	3	1	2	3	4	5	2	4	3	3	4	4	5	2	4	3	2	4	1	3	2	5	6	1	2	2
5	3	2	5	1	2	3	3	4	4	3	2	3	3	3	4	4	3	2	3	5	3	2	1	4	6	1	2	2
6	3	2	3	2	2	4	3	2	3	3	4	4	4	3	3	4	4	4	5	4	6	3	2	1	5	1	1	1
7	3	2	2	2	1	4	2	3	3	3	4	4	4	4	4	3	3	4	5	2	6	3	1	4	5	1	2	4
8	3	3	3	2	1	4	4	4	4	3	3	3	4	4	4	3	3	3	3	4	5	3	2	1	6	1	3	5
9	1	2	2	2	.	3	3	2	2	2	3	3	3	3	3	2	2	3	4	2	1	4	3	6	5	1	3	3
10	4	3	3	2	2	3	3	4	3	3	3	3	3	3	4	4	4	4	4	1	.	.	2	.	.	1	1	3
11	3	4	3	2	2	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	4	2	1	6	5	1	1	5
12	3	2	3	1	2	3	3	4	2	3	4	4	4	4	4	3	3	4	4	1	6	2	3	4	5	1	1	3
13	3	2	3	1	2	3	2	3	2	2	3	3	4	3	4	4	4	4	4	1	6	3	2	5	4	1	2	2
14	2	4	2	2	2	4	4	2	3	2	4	4	4	4	3	4	3	4	4	3	5	1	2	4	6	1	1	5
15	2	2	5	1	1	3	3	2	2	2	2	2	3	3	3	3	3	3	3	3	2	4	1	5	6	1	1	3
16	1	2	3	2	1	4	3	5	5	4	5	4	5	5	5	4	5	5	5	1	4	2	3	6	5	1	2	.

ROSETOWN MARKET CLUB

Group B

X_1: Age

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2	.707	.196	.5	35.355	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	3	2	26	58	0

1

X_2: Farm Size

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.923	.641	.178	.41	21.912	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	4	2	38	116	0

2

X_3: Educ.

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.538	1.198	.332	1.436	47.205	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	5	4	33	101	0

3

X_4: Involvement

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1.923	.277	.077	.077	14.422	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	2	1	25	49	0

4

X_5: Spouse $

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1.615	.506	.14	.256	31.347	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	2	1	21	37	0

5

Group B

X_6: 2A

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.769	.725	.201	.526	26.181	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	4	2	36	106	0

6

X_7: 2B

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.769	.832	.231	.692	30.046	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	4	2	36	108	0

7

X_8: 2C

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.231	.927	.257	.859	41.547	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	4	3	29	75	0

8

X_9: 2D

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.231	1.013	.281	1.026	45.399	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	4	3	29	77	0

9

X_{10}: 2E

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.231	.927	.257	.859	41.547	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	4	3	29	75	0

10

Group B

X_{11}: 2F

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.692	.63	.175	.397	23.416	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	4	2	35	99	0

11

X_{12}: 2G

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.923	.76	.211	.577	25.985	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	38	118	0

12

X_{13}: 2AA

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
4.077	.641	.178	.41	15.711	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
3	5	2	53	221	0

13

X_{14}: 2BB

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.846	.689	.191	.474	17.907	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
3	5	2	50	198	0

14

X_{15}: 2CC

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.846	.899	.249	.808	23.367	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	50	202	0

15

Group B

X_{16}: 2DD

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.615	.961	.266	.923	26.574	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	47	181	0

16

X_{17}: 2EE

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.538	.776	.215	.603	21.938	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	46	170	0

17

X_{18}: 2FF

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
4.077	.641	.178	.41	15.711	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
3	5	2	53	221	0

18

X_{19}: 2GG

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
4.077	.641	.178	.41	15.711	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
3	5	2	53	221	0

19

X_{20}: Newsletters

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.308	1.251	.347	1.564	54.194	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	5	4	30	88	0

20

Group B

X_{21}: Media

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.769	1.536	.426	2.359	40.748	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	6	5	49	213	0

21

X_{22}: Commodity G

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
4.077	1.605	.445	2.577	39.375	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	6	5	53	247	0

22

X_{23}: Market G

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1.75	.754	.218	.568	43.073	12
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	3	2	21	43	1

23

X_{24}: Agrologist

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.333	1.497	.432	2.242	44.924	12
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	5	4	40	158	1

24

X_{25}: Individuals

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
5.308	.751	.208	.564	14.151	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
4	6	2	69	373	0

25

X_{26}: Future Part.

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1	0	0	0	0	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	1	0	13	13	0

26

X_{27}: Future Changes

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1.615	.506	.14	.256	31.347	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
1	2	1	21	37	0

27

X_{28}: Invest

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.923	.862	.239	.744	21.981	13
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum Squared:**	**# Missing:**
2	5	3	51	209	0

28

	MARKET INFORMATION SURVEY	Age	Farm Size	Educ.
		X_1	X_2	X_3
1	1	1	3	2
2	2	3	2	3
3	3	3	3	2
4	4	1	3	5
5	5	3	3	3
6	6	2	2	3
7	7	2	4	3
8	8	2	3	1
9	9	2	3	1
10	10	1	3	1
11	11	2	4	3
12	12	2	3	2
13	13	2	2	4

	Involvement	Spouse $	2A	2B	2C	2D	2E	2F	2G
	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}
1	2	2	3	3	2	2	3	2	3
2	2	1	4	4	4	4	4	4	5
3	2	1	2	2	2	2	2	3	3
4	1	2	3	4	2	3	2	2	3
5	2	2	3	3	2	2	2	2	2
6	2	2	2	2	1	1	1	2	2
7	2	2	2	2	2	2	2	3	3
8	2	2	2	2	1	1	2	3	3
9	2	1	3	2	2	2	2	3	3
10	2	1	3	3	2	2	2	3	3
11	2	2	3	3	4	4	2	3	3
12	2	1	2	2	2	1	1	2	2
13	2	2	4	4	3	3	4	3	3

	2AA	2BB	2CC	2DD	2EE	2FF	2GG	Newsletters	Media
	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}
1	4	4	5	4	4	4	4	3	2
2	5	5	5	5	5	5	5	2	6
3	4	3	3	3	3	4	4	4	3
4	4	4	3	3	3	4	4	1	3
5	4	4	4	4	4	4	4	1	5
6	3	3	2	2	2	3	3	3	5
7	4	4	4	3	3	4	4	3	5
8	3	3	4	3	3	4	4	2	1
9	4	4	4	4	4	4	4	2	3
10	5	4	4	5	4	5	5	5	6
11	5	5	5	5	4	5	5	1	4
12	4	3	3	3	3	3	3	2	3
13	4	4	4	3	4	4	4	1	3

	Commodity G	Market G	Agrologist	Individuals	Future Part.
	x_{22}	x_{23}	x_{24}	x_{25}	x_{26}
1	4	1	5	6	1
2	4	1	3	5	1
3	2	1	5	6	1
4	4	2	5	6	1
5	3	2	4	6	1
6	4	1	2	6	1
7	4	2	1	6	1
8	6	3	4	5	1
9	1	•	•	4	1
10	3	2	1	4	1
11	6	3	2	5	1
12	6	1	4	5	1
13	6	2	4	5	1

	Future Changes	Invest
	X_{27}	X_{28}
1	1	5
2	2	4
3	2	4
4	1	4
5	1	5
6	2	2
7	1	4
8	2	3
9	2	4
10	2	4
11	2	4
12	1	5
13	2	3

MARKET INFORMATION SURVEY
GROUP B

1	1	3	2	2	2	3	3	2	2	3	2	3	4	4	5	4	4	4	4	3	2	4	1	5	6	1	1	5
2	3	2	3	2	1	4	4	4	4	4	4	5	5	5	5	5	5	5	5	2	6	4	1	3	5	1	2	4
3	3	3	2	2	1	2	2	2	2	2	3	3	4	3	3	3	3	4	4	4	3	2	1	5	6	1	2	4
4	1	3	5	1	2	3	4	2	3	2	2	3	4	4	3	3	3	4	4	1	3	4	2	5	6	1	1	4
5	3	3	3	2	2	3	3	2	2	2	2	2	4	4	4	4	4	4	4	1	5	3	2	4	6	1	1	5
6	2	2	3	2	2	2	2	1	1	1	2	2	3	3	2	2	2	3	3	3	5	4	1	2	6	1	2	2
7	2	4	3	2	2	2	2	2	2	2	3	3	4	4	4	3	3	4	4	3	5	4	2	1	6	1	1	4
8	2	3	1	2	2	2	2	1	1	2	3	3	3	3	4	3	3	4	4	2	1	6	3	4	5	1	2	3
9	2	3	1	2	1	3	2	2	2	2	3	3	4	4	4	4	4	4	4	2	3	1	.	.	4	1	2	4
10	1	3	1	2	1	3	3	2	2	2	3	3	5	4	4	5	4	5	5	5	6	3	2	1	4	1	2	4
11	2	4	3	2	2	3	3	4	4	2	3	3	5	5	5	5	4	5	5	1	4	6	3	2	5	1	2	4
12	2	3	2	2	1	2	2	2	1	1	2	2	4	3	3	3	3	3	3	2	3	6	1	4	5	1	1	5
13	2	2	4	2	2	4	4	3	3	4	3	3	4	4	4	3	4	4	4	1	3	6	2	4	5	1	2	3